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Via Bordonì, Milan, Italy

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Background History

1. The firm was founded in 1886, by Ernesto Breda, primarily for the production of railway locomotives.
2. It began its expansion with the nationalization of the Italian railways, in 1906. Shortly prior to this, the firm, anticipating heavy orders from the Government for locomotives and rolling stock, moved part of its premises from Milan to Sesto San Giovanni.
3. At the outbreak of World War I, to meet wartime requirements, the Sesto San Giovanni works were converted into a giant arsenal for the production of guns, howitzers, mortars, and naval torpedoes. A hydroelectric plant was at the same time installed in the Valle Del Lys, at the foot of Mount Rosa.
4. A naval dockyard was built in Venice, and construction of airplane engines started up in the firm's factories at Milan, and Sesto San Giovanni.
5. With the end of World War I, and the death of Ing. Breda, the latter's successors became active supporters and promoters of the Fascist regime. Toward the end of 1924, they had succeeded in directing the firm's production toward the manufacture of small arms, for which purpose two new factories were created in Rome and at Brescia.
6. During World War II, the Breda firm limited its production to the manufacture of arms and ammunition (naval, military, and air), military tractors, and railway material.
7. In 1945, as a result of clauses in the Peace Treaty, coupled with Italy's financial plight, all military production work was suspended.

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2

8. The firm now produces chiefly railway rolling stock and equipment. Aircraft and naval construction work has been turned over to peacetime needs.
9. Factory equipment has remained basically the same since the war. In the Breda factories at Sesto San Giovanni, Brescia, and Rome, as well as in the plants controlled by the Breda firm at Naples, and Venice, the output power is more than 70,000 H.P. The total number of machine tools exceeds 12,000.

Sesto San Giovanni Factory.

10. The factory covers an area of more than 2,300,000 square meters and employs over 15,000 workers. It is divided into five sections.

- a. Section I. locomotives, electro and general mechanics. The workshops cover an area of 250,000 square meters.

- (1) Production. Electric train engine parts and steam-driven locomotives of all types. Electric locomotives and diesel railroad cars (small, medium, and large). Complete hydro-electric plants. Electrical transformer cabins. Transformer substations. Converter sets (gruppi convertitivi). Diesel railroad cars with internal combustion engines. Machinery required for various industries, including cement production, chemical products, mines, distillation, mineral oil refinery, paper factories, steam boilers for fixed installations, steel structural work, and road compressors. Wartime production included: 4-wheel army trailers, machine gun carriages, and oleodynamic gun turrets for aircraft machine guns.
- (2) Equipment. 3,000 machine tools; 50 cranes (from 1 to 60 tons in weight); 4 carriage trolleys (carrelli trasbordatori); and 1 insulation test transformer (1 trasformatore prove isolamento), with 600,000 volt tension capacity. Testing shop for diesel engine brakes, autogenous electrical, galvano plastic welding equipment. Light alloys and special bronze foundry section for thermic treatment of steel.

- b. Section II. vehicles. The workshops cover an area of 120,000 square meters.

- (1) Production. Reassembling coaches; diesel railroad cars; electric trains; electric trams; trolley busses; and metal structural work (carpenterie metalliche).
- (2) Equipment. Several kilometers of railway track; trestle cranes with sliding bridges (grue a cavalette a ponte scorrevole); 4 carriage trolleys (carrelli di trasbordo); forging tools for processing metal parts of vehicles; upholstery and wood work section; machinery for plate and tubing work; and electrical and autogenous welding shop.

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- 3 -

c. Section III, forge shops and steel foundries. These cover an area of 80 square meters.

- (1) Production. locomotive wheels; wheels for tram and railway coaches; castings (for arms and machinery); and bars (longotti).
- (2) Equipment. 25 compressed air hammers; 7 vertical presses (400 to 2,000 tons); 5 horizontal presses (60 to 200 tons); forging shops (among the largest of their kind in Europe); machine tool shop for processing of castings; sandblasting and galvanization plant; and compressed air production plant operating 6 compressors.

d. Section IV, iron metallurgy. This section occupies an area of 300,000 square meters.

- (1) Production. In addition to 100,000 tons a year of processed steel, this includes: rails splice bars (gamasco); grids (piastre); bearing plates for fixing rails (piastine per fissaggio rotaie); pulley wheels (guide) for personnel and freight lifts; tire rims for trucks; and special steel for aircraft.
- (2) Equipment. 3 Martin Siemens self-loading furnaces; 5 Heroult electrical furnaces; 2 induction furnaces; 15 (100 to 2,000 kg) forge hammers; 15 bridge and trestle cranes (gru a ponte e a cavalletto); loading cranes for furnaces up to 600 tons; and electro-magnets.

e. Section V, aircraft. This section occupies an area of 200,000 square meters (50,000 covered in) with an airfield of 2,000 by 700 meters.

- (1) Production. Prototypes of civilian and tourist aircraft, including the BZ 308 which has the following specifications:

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|---|-----------------|
| (a) Wing span, | 42,100 meters |
| (b) Length, | 33,520 meters |
| (c) Weight, | 26,000 kg. |
| (d) Maximum carriage weight, | 48,000 kg. |
| (e) Take-off power, | 10,000 H.P. |
| (f) Maximum speed, | 560 km. per hr. |
| (g) Cruising speed, | 420 km. per hr. |
| (h) Maximum operating range,
(autonomia massima) | 6,000 km. |
| (i) Ceiling, | 7,400 meters |
| (j) Petrol and oil, | 12,800 kg. |

Three such aircraft are on order (2 from Holland, and one from Poland).

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- 4 -

Brescia Factory.

11. This factory, which formerly produced arms, has been converted to the manufacture of agricultural machinery. Parts are built on the premises or supplied by the Sesto San Giovanni factories. Agricultural machinery is produced for the home market as well as for export to the Middle East and the Latin countries. The factory employs at present 1,400 workers and is equipped with a small auxiliary electrical plant.

Rome Factory.

12. This factory, which originally was constructed for arms production switched over, in 1946, to the manufacture of special textile machinery used in the processing of silk and wool. Parts are built on the premises or obtained direct from Sesto San Giovanni. The factory employs about 800 workers. Output goes to the home market, to certain European countries, and to America.

Naval Shipyard at Mestre.

13. The dockyard is owned by the Venice Shipyard Company (Cantieri Navali di Venezia) which is affiliated to Breda. It occupies an area of 44,000 square meters at Mestre, and employs 1,500 workers. Its installations did not suffer any serious war damage.

- a. Equipment. Workshop engineering equipment capable of processing 25 tons of sheet metal per day; calenders (calandre), 11 meters long with a 33 mm thickness; hydraulic clamps (glangiatrici idrauliche); two presses (300 and 100 tons); planing machines (bordatrici); swivel drills (trapanatrici girevoli); diesel oil furnaces; 3 longitudinal slips measuring up to 150 meters; several transversal slips measuring up to 60 meters; and swivel lever cranes (gru a braccio girevole).
- b. Production. Two 5,000 ton vessels are being built on order from Turkey. Repairs to one Liberty ship are in process. The dockyard can also undertake construction of metal structural work, (carpenterie metalliche); bridges, turrets (torrette); tanks, hangars, and so forth.

Naples Factory.

14. This was owned by Breda, until 1945, when it passed into the hands of an affiliated concern, Industrie Meccaniche Meridionali. The Breda firm controls most of the shares. The factory, which during the war was exclusively concerned with aircraft production, has suffered severe damage. In 1945, it switched over to production of railway material and is now engaged in constructing and repairing railway coaches.
15. The factory employs 2,000 workers. It is equipped with a small plant which supplies one-quarter of its electrical energy requirements. The remainder are met from the normal current.

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- 5 -

Ernesto Breda Technical and Scientific Institute.

16. This is located in the Sesto San Giovanni factory and is divided into two sections:
- a. Section I. General testing and inspection of all material by the firm; and
 - b. Section II. Technical and scientific research work.
17. This Institute is equipped with furnaces for experimental smelting work and thermic treatment with high frequency induction furnaces (forni al induzione ad alta frequenza). It has a special workshop for preparing tests.

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